MARICOPA COUNTY ENVIRONMENTAL HEALTH CODE

CHAPTER VI

BATHING PLACES - PUBLIC AND SEMIPUBLIC SWIMMING POOLS

SECTION 4

WATER CIRCULATION, DISINFECTION AND CHEMICAL CONDITIONING

REGULATION 1. Water Circulation System

A. A public or semipublic swimming pool or spa shall have a water circulation system that provides complete circulation of water through all parts of the swimming pool or spa and can maintain water chemistry and water clarity requirements.

B. The water circulation system for a public or semipublic swimming pool shall have a turnover rate of at least once every 8 hours. The water circulation system of a public or semipublic spa shall have a turnover rate of at least once every 30 minutes. The water circulation system for a wading pool shall have a turnover rate of at least once every hour. The water circulation system shall be designed to give the proper turnover rate without exceeding the maximum filtration rate for the filter.

C. Water circulation system components shall comply with American National Standards Institute / NSF International Standard Number 50, "Circulation System Components and Related Materials for Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan which is incorporated by reference and on file with the office of the Secretary of State and the Department.

D. Water circulation system components shall be accessible for inspection, repair, or replacement.

E. Water withdrawn from a public or semipublic swimming pool or spa shall not be returned unless it has been filtered and adequately disinfected except that water may be withdrawn from a swimming pool for water slide(s), water feature(s), or a water

fountain(s) without being filtered or disinfected as approved on a case-by-case basis by the Department.

F. In a swimming pool complex with more than one swimming pool or where there is a combination of swimming pools and spas, each swimming pool and spa shall have a separate water circulation system.

G. Hydrotherapy jets or other devices which create roiling water or similar effects in a spa shall not be connected to the water circulation system, but shall be operated through a separate system.

REGULATION ~~1~~ 2. Disinfecting Agents

Effective water disinfection shall be provided and maintained in all pools. This shall be accomplished by chlorination or other approved methods which will effectively maintain ~~in the pool water~~ an adequate~~, readily measurable residual~~ amount of the disinfectant introduced into the water which is subject to field testing by methods that are easy to use and accurate. Timers on disinfection equipment are prohibited**.** ~~The use of chlorinated cyanurate for disinfection and stabilization is permitted, but chlorine-ammonia disinfection is not permitted. The addition of undissolved or gaseous disinfectant directly into the pool is prohibited.~~ The addition of dry or liquid disinfectant directly into a public or semipublic swimming pool or spa for routine disinfection is prohibited. This prohibition does not prohibit the use of liquid or dry disinfectants for shock treatment of a swimming pool or spa.

REGULATION 3 ~~2~~ Gaseous Disinfectants

When gaseous chlorine is used, the following additional features shall be provided:

~~a. The chlorine and chlorinating equipment shall be located in a separate well-ventilated enclosure on or above ground. The enclosure shall be reasonably gas-tight, noncombustible and corrosion-resistant. The door of the chlorine enclosure shall open to the outside and shall not open directly toward the pool. If chlorination equipment is placed in a room, an exhaust fan or gravity ventilation system shall be provided. Mechanical exhausters shall take suction 6 inches or less above the floor and discharge through corrosion-resistant louvers to a safe outside location. Gravity ventilation shall be constructed so as to discharge to the outside from floor level. Fresh air intakes shall be located no closer than three feet above the ventilation discharge. In all cases, the~~

~~chlorine room exhausts shall be directed away from the pool to an area which is normally unoccupied. Chlorine room fans must run continuously and be capable of completely changing the air in the room at least one time in a minute. One electrical switch to control artificial lighting shall be located on the outside of the enclosure and adjacent to the door.~~

~~b. Chlorine cylinders shall be kept in an upright position and securely anchored to prevent their falling. Cylinders may be stored indoors or out. If the cylinders are stored outside, they must not be stored in direct sunlight. Keys shall be maintained on the chlorine cylinder so supply can be shut off quickly in the case of an emergency.~~

~~c. A sign must be placed on the outside of the door which cautions persons of the danger of chlorine gas within the enclosure. The warning shall be in letters 3" high or larger.~~

~~d. The device shall be solution-feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere.~~

~~e. The chlorinators shall be designed to prevent the backflow of water into the chlorine solution container.~~

A. The chlorinator, chlorine cylinders and associated chlorination equipment shall be located in a separate well-ventilated enclosure at or above ground level. The enclosure shall be reasonably gas-tight, noncombustible and corrosion-resistant. The door of the enclosure shall open to the outside and shall not open directly toward the swimming pool.

B. If chlorination equipment is placed in a room, then an exhaust fan or gravity ventilation system shall be provided. Mechanical exhausters shall take suction 6 inches or less above the floor and discharge through corrosion-resistant louvers to a safe outside location. A gravity ventilation system shall be designed and constructed to discharge to the outside from floor level. Fresh air intakes shall be located no closer than 3 feet above the ventilation discharge. Chlorine room exhausts shall be directed away from the swimming pool to an area which is normally unoccupied. Chlorine room fans shall be capable of completely changing the air in the room at least once a minute.

C. Electrical switches to control lighting and ventilation in the chlorine room shall be located on the outside of the enclosure and adjacent to the door.

D. Chlorine cylinders shall be kept in an upright position and securely anchored to prevent them from falling. Chlorine cylinders may be stored indoors or out. If stored outside,

chlorine cylinders shall not be stored in direct sunlight. Chlorine cylinders shall not be stored near an elevator, ventilation system or heat source.

E. A warning sign shall be placed on the outside of the door to the chlorine room which cautions persons of the danger of chlorine gas within the enclosure. The warning shall be in letters 3 inches high or larger. The door to the chlorine room shall be provided with a shatter resistant inspection window.

F. Chlorinators shall be a solution-feed type, capable of delivering chlorine at its maximum rate without releasing chlorine gas to the atmosphere. Chlorinators shall be designed to prevent the backflow of water into the chlorine solution container.

G. Facilities that provide chlorine containment and chlorine scrubber units approved by the local agency are considered in compliance with paragraphs A through F. of Regulation 3 in Section 4 of this Code

H. A common chlorine gas disinfection system may be utilized in separate swimming pools if separate metering and feeding devices are provided for each swimming pool.

I. The addition of gaseous disinfectant directly into a public or semipublic swimming pool is prohibited. A chlorine gas disinfection system shall not be used for the disinfection of water in a public or semipublic spa.

REGULATION ~~3~~4. Liquid Disinfectants

Hypochlorite solutions shall be fed by an acceptable type of hypochlorinator.

REGULATION ~~4~~5. Dry Disinfectants

Granular, tablet, stick and other forms of dry disinfectant shall be fed by an adjustable automatic feeding device.

REGULATION ~~5~~6. Disinfection Equipment

~~Disinfectant equipment which meet the standards set forth by the National Sanitation Foundation or the Chlorine Institute shall be accepted.~~ Disinfection equipment and chemical feeders shall comply with the requirements set forth in American National Standards Institute / NSF International Standard 50, "Circulation System Components And Related Materials For Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan.

REGULATION 7. Chemical Feeders

Chemical feeders, mixing tanks and other equipment may be required where the continuous addition of certain chemicals is deemed by the Department to be necessary for the treatment and filtration process.

A. An adjustable automatic chemical feeder shall be provided to ensure the continuous disinfection of the water in a public or semipublic swimming pool or spa. Timers on disinfection equipment are prohibited. Disinfection shall be accomplished by chlorination or by ~~an~~other methods that ~~is~~ are approved by the Department. The method of disinfection shall effectively maintain an adequate disinfectant residual in the water which is subject to field-testing by other methods that are easy to use and accurate.

1. Chlorine disinfection equipment for a public or semipublic swimming pool shall be designed to maintain a free chlorine residual of 1.0 to ~~3~~5.0 ppm. Chlorine disinfection equipment for a public or semipublic spa shall be designed to maintain a free chlorine residual of 3.0 to 5.0 ppm.
2. Bromine disinfection equipment for a public or semipublic swimming pool shall be designed to maintain a bromine residual of 2.0 to 4.0 ppm. Bromine disinfection equipment for a public or semipublic spa shall be designed to maintain a bromine residual of 3.0 to 5.0 ppm.

B. The use of chlorinated isocyanurates or cyanuric acid stabilizer for disinfection and stabilization is permitted. If used, chlorinated isocyanurates shall be fed so as to maintain required disinfectant residual levels. Cyanuric acid levels, whether from chlorinated isocyanurates or from the separate addition of cyanuric acid stabilizer, shall not exceed ~~150~~ 100 ppm.

C. The use of chloramines as a primary disinfectant of swimming pool or spa water is prohibited.

D. Metering and feeding devices are provided for each swimming pool.

E. Disinfection equipment and chemical feeders shall comply with the requirements set forth in American National Standards Institute / NSF International Standard 50, "Circulation System Components And Related Materials For Swimming Pools, Spas / Hot Tubs," NSF International, 3475 Plymouth Road, P.O. Box 130140, Ann Arbor, Michigan

[Revised July, 1996 and no future editions] which is incorporated by reference and on file with the Department.

F. If a chemical feeder is used, it shall be installed to inject solution downstream from the filter and the heater. An erosion-type feeder may be installed to feed solution to the suction side of the pump. A chemical feeder shall be ~~wired~~ installed so it cannot operate unless the filter pump is running.